Syllabus: Programming in Java   2016 ATDP

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Class Website: https://github.com/jbrotsos/ATDP

Room:
1111 Etcheverry

Textbook:
Building Java Programs: A Back to Basics Approach (2nd Edition) *by Stuart Reges and Marty Stepp*

Course Overview and Goals:
ATDP Programming in Java is a full summer of work and is comparable to introductory courses in colleges and universities. Every topic that is on the AP Computer Science A test will be covered. The goal of the class is for students to become comfortable with the principles of computer science, and proficient in using the Java programming language. My goal is to use a logical, step-by-step approach so that students feel confident of their own understanding as we span a wide variety of important software concepts.

Among topics are writing algorithms, data structures, principles of object-oriented programing, using 3rd-party software packages, and designing and implementing software projects.

Expectations:
The following expectations are of students:
- Come to class every day, on time, prepared to learn,
- Limit distractions by storing electronics and cell phones,
- Complete homework and study by due dates,
- Be willing to work with students in class,
- Ask questions, engage in the learning process, and stay curious.

In addition to homework, quizzes, and labs, each student will complete two software projects. These projects will take two weeks to complete. They will consist of several daily "checkpoints", that will assure both students and me that you are progressing towards successful completion.

You may expect the following of me:
- Be in class, be well-prepared, and knowledgeable about the subject matter,
- Provide clear expectations and directions,
- Be available outside of class for additional help, even at night,
- Teach you the necessary skills to complete assignments in this class,
- Hold you to the highest standards, give you praise and respect, and
- Be invested in your success.

Skills:
In order to be successful in this class, there are skills that you will work on during the course of the year. As with any college-level course, learning the subject material is half the battle. Lots of your efforts will be made easier, more efficient and fruitful if you apply yourself to mastering skills and techniques related to studying, writing and laboratory work. The skills that will be emphasized in this course include:

- Note taking during lectures,
- Planning, writing and testing solutions to various problems,
- Time management and prioritizing in work,
- Using effective study techniques for review.

It is my firm belief that mastering these skills will prepare you for academic success in all of your high school and collegiate course work.

Attendance Policy:
It is your responsibility to be in class <u>every day</u>. An absence in any class makes it difficult to stay on top of your work and it is hard for me to help you understand the subject material. You will be responsible for work that you missed.

Projects:
There will be two projects assigned in the second half of the class which will cover all the material that was covered in the first half.

Homework:
Homework will be assigned nightly in this class. A typical homework assignment will be to read a section of the textbook and practice problems. The purpose of this is to supplement what you have learned in class and to make sure that we can spend our time together working through, analyzing and extending our studies as opposed to seeing subject material for the first time.

Quizzes:
You will have an open note quiz at the end of every class that covers the topics covered in class. This encourages you to focus and take notes during the lectures and labs.

Unit Schedule:

- Intro to Java
- Data types and Flow control
- Loops, boolean logic, string processing.
- Arrays, lists and files
- Searching & sorting
- Object Oriented programming

Student Evaluation:

Projects	25
Quizzes	25
Labs	25
Homework	25
Total:	**100**

Parents:
I want parents to know what you are doing in your class, especially because it will be a large investment of time and effort on your behalf. Please feel free to have them contact me with questions or concerns at any time. I will also reach out periodically to update them of your progress.